

## CLAIMS

1. A method for forming a pharmaceutical composition, comprising:

- 5 (a) forming a solution comprising a cholesteryl ester transfer protein inhibitor, a concentration-enhancing polymer, and a solvent;
- 10 (b) rapidly removing said solvent from said solution to form a solid amorphous dispersion comprising said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer; and
- 15 (c) said concentration-enhancing polymer being present in said solution in a sufficient amount so that said solid amorphous dispersion provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use environment relative to a control composition consisting essentially of an
- 20 equivalent amount of said cholesteryl ester transfer protein inhibitor but with no concentration-enhancing polymer.

2. The method of claim 1, further comprising the

25 step of atomizing said solution to form droplets.

3. The method of claim 2 wherein said step of atomizing said solution is performed by spraying said solution through a pressure nozzle.

30 4. The method of claim 1 wherein said solvent is removed by spray-drying.

5. The method of claim 1 wherein said solvent is

35 removed by spray-coating.

6. A method for forming a pharmaceutical composition, comprising:

- (a) feeding a cholesteryl ester transfer protein inhibitor into an extruder;
- 5 (b) feeding a concentration-enhancing polymer into said extruder;
- (c) extruding said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer through said extruder to form  
10 a solid amorphous dispersion comprising said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer; and
- (d) feeding a sufficient amount of said  
15 concentration-enhancing polymer into said extruder so that said solid amorphous dispersion provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use environment relative to a control composition consisting essentially of  
20 an equivalent amount of said cholesteryl ester transfer protein inhibitor but with no concentration-enhancing polymer.

7. The method of claim 6, further comprising the  
25 step of mixing said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer together to form a mixture prior to feeding said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer into said extruder.

8. The method of claim 6, further comprising the  
30 step of mixing said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer together to form a mixture after feeding said cholesteryl ester transfer  
35 protein inhibitor and said concentration-enhancing polymer into said extruder.

9. The method of claim 6, further comprising the step of forming a molten mixture of said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer.

5

10. The method of claim 9, further comprising the step of rapidly cooling said molten mixture.

11. The method of claim 9, further comprising the step of feeding an excipient into said extruder to reduce the temperature required to form said molten mixture.

12. The method of claim 6 wherein said extruder is a twin-screw extruder.

15

13. A method for forming a pharmaceutical composition, comprising:

20

- (a) forming a molten mixture comprising a cholesteryl ester transfer protein inhibitor and a concentration-enhancing polymer;
- (b) cooling said mixture to form a solid amorphous dispersion comprising said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer; and

25

- (c) providing a sufficient amount of said concentration-enhancing polymer in said mixture so that said solid amorphous dispersion provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use environment relative to a control composition consisting essentially of an equivalent amount of said cholesteryl ester transfer protein inhibitor but with no concentration-enhancing polymer.

30

35

14. The method of claim 13, further comprising the step of adding an excipient to reduce the temperature required to form said molten mixture.

5 15. The method of claim 13, further comprising the step of mixing said molten mixture so that said molten mixture is substantially homogeneous.

10 16. The method of claim 13 wherein said molten mixture is formed by melting said concentration-enhancing polymer and adding said cholesteryl ester transfer protein inhibitor to said concentration-enhancing polymer.

15 17. The method of claim 13 wherein said molten mixture is formed by melting said cholesteryl ester transfer protein inhibitor and adding said concentration-enhancing polymer to said cholesteryl ester transfer protein inhibitor.

20 18. The method of claim 13 wherein said molten mixture is formed by mixing said cholesteryl ester transfer protein inhibitor and said concentration-enhancing polymer together to form a solid blend and heating said solid blend.

25 19. The method of any one of claims 1, 6 and 13 wherein said cholesteryl ester transfer protein inhibitor is substantially amorphous and said dispersion is substantially homogeneous.

30 20. The method of any one of claims 1, 6 and 13 wherein said dispersion has a single glass transition temperature.

35 21. The method of any one of claims 1, 6 and 13 wherein said composition provides a maximum concentration of said cholesteryl ester transfer protein inhibitor in said use environment that is at least 10-fold the equilibrium

concentration of said cholesteryl ester transfer protein inhibitor provided by said control composition.

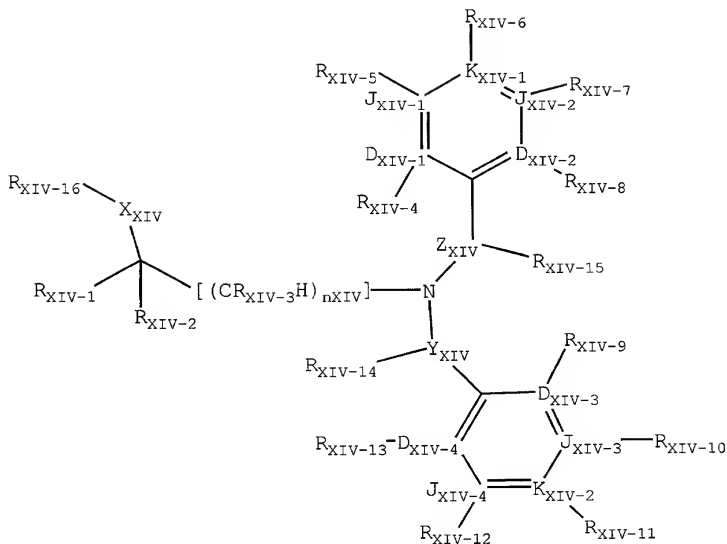
22. The method of any one of claims 1, 6 and 13 wherein said composition provides in said use environment an area under the concentration versus time curve for any period of at least 90 minutes between the time of introduction into the use environment and about 270 minutes following introduction to the use environment that is at least about 5-fold that of a control composition.

23. The method of any one of claims 1, 6 and 13 wherein said composition provides a relative bioavailability that is at least 4-fold relative to said control composition.

24. The method of any one of claims 1, 6 and 13 wherein said cholesteryl ester transfer protein inhibitor has a dose-to-aqueous-solubility ratio of at least 1,000 ml.

25. The product of the method of any one of claims 1-18.

26. A pharmaceutical composition comprising a solid amorphous dispersion of a cholesteryl ester transfer protein inhibitor and a concentration-enhancing polymer, wherein said concentration-enhancing polymer is present in said solid amorphous dispersion in a sufficient amount so that said composition provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use environment relative to a control composition consisting of an equivalent amount of said cholesteryl ester transfer protein inhibitor alone, and wherein said cholesteryl ester transfer protein inhibitor is selected from the group consisting of Formula XIV, Formula XV, Formula XVI, Formula XVII and Formula XVIII, wherein Formula XIV is:



Formula XIV

5

and pharmaceutically acceptable forms thereof, wherein:

$n_{XIV}$  is an integer selected from 0 through 5;

$R_{XIV-1}$  is selected from the group consisting of haloalkyl, haloalkenyl, haloalkoxyalkyl, and haloalkenyloxyalkyl;

10  $X_{XIV}$  is selected from the group consisting of O, H, F, S, S(O), NH, N(OH), N(alkyl), and N(alkoxy);

$R_{XIV-16}$  is selected from the group consisting of hydrido, alkyl, alkenyl, alkynyl, aryl, aralkyl, aryloxyalkyl, alkoxyalkyl, alkenyloxyalkyl, alkylthioalkyl, arylthioalkyl, 15 aralkoxyalkyl, heteroaralkoxyalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, cycloalkenyl, cycloalkenylalkyl, haloalkyl, haloalkenyl, halocycloalkyl, halocycloalkenyl, haloalkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxyalkyl, 20 halocycloalkenyloxyalkyl, perhaloaryl, perhaloaralkyl,

perhaloaryloxyalkyl, heteroaryl, heteroarylalkyl, monocarboalkoxyalkyl, monocarboalkoxy, dicarboalkoxyalkyl, monocarboxamido, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, acyl, aroyl, heteroaroyl, heteroaryloxyalkyl, dialkoxyphosphonoalkyl, trialkylsilyl, and a spacer selected from the group consisting of a covalent single bond and a linear spacer moiety having from 1 through 4 contiguous atoms linked to the point of bonding of an aromatic substituent selected from the group consisting of  $R_{XIV-4}$ ,  $R_{XIV-8}$ ,  $R_{XIV-9}$ , and  $R_{XIV-13}$  to form a heterocyclyl ring having from 5 through 10 contiguous members with the provisos that said spacer moiety is other than a covalent single bond when  $R_{XIV-2}$  is alkyl and there is no  $R_{XIV-16}$  wherein X is H or F;

$D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  are independently selected from the group consisting of C, N, O, S and a covalent bond with the provisos that no more than one of  $D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  is a covalent bond, no more than one of  $D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  is O, no more than one of  $D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  is S, one of  $D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  must be a covalent bond when two of  $D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  are O and S, and no more than four of  $D_{XIV-1}$ ,  $D_{XIV-2}$ ,  $J_{XIV-1}$ ,  $J_{XIV-2}$  and  $K_{XIV-1}$  are N;

$D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  are independently selected from the group consisting of C, N, O, S and a covalent bond with the provisos that no more than one of  $D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  is a covalent bond, no more than one of  $D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  is O, no more than one of  $D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  is S, one of  $D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  must be a covalent bond when two of  $D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  are O and S, and no more than four of  $D_{XIV-3}$ ,  $D_{XIV-4}$ ,  $J_{XIV-3}$ ,  $J_{XIV-4}$  and  $K_{XIV-2}$  are N;

$R_{XIV-2}$  is independently selected from the group consisting of hydrido, hydroxy, hydroxyalkyl, amino, aminoalkyl, alkylamino, dialkylamino, alkyl, alkenyl, alkynyl, aryl, aralkyl, aralkoxyalkyl, aryloxyalkyl, alkoxyalkyl, heteroaryloxyalkyl, alkenyloxyalkyl, alkylthioalkyl, aralkylthioalkyl, arylthioalkyl, cycloalkyl, cycloalkylalkyl,

- cycloalkylalkenyl, cycloalkenyl, cycloalkenylalkyl, haloalkyl, haloalkenyl, halocycloalkyl, halocycloalkenyl, haloalkoxy, alkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl, heteroaryl, heteroarylalkyl, heteroarylthioalkyl, heteroaralkylthioalkyl, monocarboalkoxyalkyl, dicarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, alkylsulfinyl, alkylsulfonyl, alkylsulfinylalkyl, alkylsulfonylalkyl, haloalkylsulfinyl, haloalkylsulfonyl, arylsulfinyl, arylsulfinylalkyl, arylsulfonyl, arylsulfonylalkyl, aralkylsulfinyl, aralkylsulfonyl, cycloalkylsulfinyl, cycloalkylsulfonyl, cycloalkylsulfinylalkyl, cycloalkylsulfonylalkyl, heteroarylsulfonylalkyl, heteroarylsulfinyl, heteroarylsulfonyl, heteroarylsulfinylalkyl, aralkylsulfinylalkyl, aralkylsulfonylalkyl, carboxy, carboxyalkyl, carboalkoxy, carboxamide, carboxamidoalkyl, carboaralkoxy, dialkoxyphosphono, diaralkoxyphosphono, dialkoxyphosphonoalkyl, and diaralkoxyphosphonoalkyl;

- $R_{XIV-2}$  and  $R_{XIV-3}$  are taken together to form a linear spacer moiety selected from the group consisting of a covalent single bond and a moiety having from 1 through 6 contiguous atoms to form a ring selected from the group consisting of a cycloalkyl having from 3 through 8 contiguous members, a cycloalkenyl having from 5 through 8 contiguous members, and a heterocyclyl having from 4 through 8 contiguous members;

- $R_{XIV-3}$  is selected from the group consisting of hydrido, hydroxy, halo, cyano, aryloxy, hydroxyalkyl, amino, alkylamino, dialkylamino, acyl, sulphydryl, acylamido, alkoxy, alkylthio, arylthio, alkyl, alkenyl, alkynyl, aryl, aralkyl, aryloxyalkyl, alkoxyalkyl, heteroarylthio, aralkylthio, aralkoxyalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, aroyl, heteroaroyl, aralkylthioalkyl, heteroaralkylthioalkyl, heteroaryloxyalkyl, alkenyloxyalkyl, alkylthioalkyl, arylthioalkyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, cycloalkenyl, cycloalkenylalkyl, haloalkyl,

- haloalkenyl, halocycloalkyl, halocycloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl, heteroaryl, heteroarylalkyl, heteroarylthioalkyl, monocarboalkoxyalkyl, dicarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, alkylsulfinyl, alkylsulfonyl, haloalkylsulfinyl, haloalkylsulfonyl, arylsulfinyl, arylsulfinylalkyl, arylsulfonyl, arylsulfonylalkyl, aralkylsulfinyl, aralkylsulfonyl, cycloalkylsulfinyl, cycloalkylsulfonyl, cycloalkylsulfinylalkyl, cycloalkylsulfonylalkyl, heteroarylsulfonylalkyl, heteroarylsulfinyl, heteroarylsulfonyl, heteroarylsulfinylalkyl, aralkylsulfinylalkyl, aralkylsulfonylalkyl, carboxy, carboxyalkyl, carboalkoxy, carboxamide, carboxamidoalkyl, carboaralkoxy, dialkoxyphosphono, diaralkoxyphosphono, dialkoxyphosphonoalkyl, and diaralkoxyphosphonoalkyl;
- $Y_{XIV}$  is selected from a group consisting of a covalent single bond,  $(C(R_{XIV-14})_2)_{q_{XIV}}$  wherein  $q_{XIV}$  is an integer selected from 1 and 2 and  $(CH(R_{XIV-14}))_{g_{XIV}}-W_{XIV}-(CH(R_{XIV-14}))_{p_{XIV}}$  wherein  $g_{XIV}$  and  $p_{XIV}$  are integers independently selected from 0 and 1;
- $R_{XIV-14}$  is independently selected from the group consisting of hydrido, hydroxy, halo, cyano, aryloxy, amino, alkylamino, dialkylamino, hydroxyalkyl, acyl, aroyl, heteroaroyl, heteroaryloxyalkyl, sulfhydryl, acylamido, alkoxy, alkylthio, arylthio, alkyl, alkenyl, alkynyl, aryl, aralkyl, aryloxyalkyl, aralkoxyalkylalkoxy, alkylsulfinylalkyl, alkylsulfonylalkyl, aralkylthioalkyl, heteroaralkoxythioalkyl, alkoxyalkyl, heteroaryloxyalkyl, alkenyloxyalkyl, alkylthioalkyl, arylthioalkyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, cycloalkenyl, cycloalkenylalkyl, haloalkyl, haloalkenyl, halocycloalkyl, halocycloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl, heteroaryl, heteroarylalkyl, heteroarylthioalkyl, heteroaralkylthioalkyl,

- monocarboalkoxyalkyl, dicarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, alkylsulfinyl, alkylsulfonyl, haloalkylsulfinyl, haloalkylsulfonyl, arylsulfinyl, arylsulfinylalkyl, arylsulfonyl, arylsulfonylalkyl, aralkylsulfinyl, aralkylsulfonyl, cycloalkylsulfinyl, cycloalkylsulfonyl, cycloalkylsulfinylalkyl, cycloalkylsulfonylalkyl, heteroarylsulfonylalkyl, heteroarylsulfinyl, heteroarylsulfonyl, heteroarylsulfinylalkyl, aralkylsulfinylalkyl, aralkylsulfonylalkyl, carboxy, carboxyalkyl, carboalkoxy, carboxamide, carboxamidoalkyl, carboaralkoxy, dialkoxyposphono, diaralkoxyposphono, dialkoxyposphonoalkyl, diaralkoxyposphonoalkyl, a spacer selected from a moiety having a chain length of 3 to 6 atoms connected to the point of bonding selected from the group consisting of  $R_{XIV-9}$  and  $R_{XIV-13}$  to form a ring selected from the group consisting of a cycloalkenyl ring having from 5 through 8 contiguous members and a heterocyclyl ring having from 5 through 8 contiguous members and a spacer selected from a moiety having a chain length of 2 to 5 atoms connected to the point of bonding selected from the group consisting of  $R_{XIV-4}$  and  $R_{XIV-8}$  to form a heterocyclyl having from 5 through 8 contiguous members with the proviso that, when  $Y_{XIV}$  is a covalent bond, an  $R_{XIV-14}$  substituent is not attached to  $Y_{XIV}$ ;  $R_{XIV-14}$  and  $R_{XIV-14}$ , when bonded to the different atoms, are taken together to form a group selected from the group consisting of a covalent bond, alkylene, haloalkylene, and a spacer selected from a group consisting of a moiety having a chain length of 2 to 5 atoms connected to form a ring selected from the group of a saturated cycloalkyl having from 5 through 8 contiguous members, a cycloalkenyl having from 5 through 8 contiguous members, and a heterocyclyl having from 5 through 8 contiguous members;  $R_{XIV-14}$  and  $R_{XIV-14}$ , when bonded to the same atom are taken together to form a group selected from the group consisting of oxo, thiono, alkylene, haloalkylene, and a spacer selected from the group consisting of a moiety having a chain length of

3 to 7 atoms connected to form a ring selected from the group consisting of a cycloalkyl having from 4 through 8 contiguous members, a cycloalkenyl having from 4 through 8 contiguous members, and a heterocyclyl having from 4 through 8 contiguous members;

$W_{XIV}$  is selected from the group consisting of O, C(O), C(S), C(O)N( $R_{XIV-14}$ ), C(S)N( $R_{XIV-14}$ ), ( $R_{XIV-14}$ )NC(O), ( $R_{XIV-14}$ )NC(S), S, S(O), S(O)<sub>2</sub>, S(O)<sub>2</sub>N( $R_{XIV-14}$ ), ( $R_{XIV-14}$ )NS(O)<sub>2</sub>, and N( $R_{XIV-14}$ ) with the proviso that  $R_{XIV-14}$  is selected from other than halo and cyano;

$Z_{XIV}$  is independently selected from a group consisting of a covalent single bond, ( $C(R_{XIV-15})_2$ )<sub>qXIV-2</sub> wherein  $q_{XIV-2}$  is an integer selected from 1 and 2, ( $CH(R_{XIV-15})$ )<sub>jXIV</sub>-W-( $CH(R_{XIV-15})$ )<sub>kXIV</sub> wherein  $j_{XIV}$  and  $k_{XIV}$  are integers independently selected from 0 and 1 with the proviso that, when  $Z_{XIV}$  is a covalent single bond, an  $R_{XIV-15}$  substituent is not attached to  $Z_{XIV}$ ;

$R_{XIV-15}$  is independently selected, when  $Z_{XIV}$  is ( $C(R_{XIV-15})_2$ )<sub>qXIV</sub> wherein  $q_{XIV}$  is an integer selected from 1 and 2, from the group consisting of hydrido, hydroxy, halo, cyano, aryloxy, amino, alkylamino, dialkylamino, hydroxyalkyl, acyl, aroyl, heteroaroyl, heteroaryloxyalkyl, sulfhydryl, acylamido, alkoxy, alkylthio, arylthio, alkyl, alkenyl, alkynyl, aryl, aralkyl, aryloxyalkyl, aralkoxyalkyl, alkylsulfanylalkyl, alkylsulfonylalkyl, aralkylthioalkyl, heteroaralkylthioalkyl, alkoxyalkyl, heteroaryloxyalkyl, alkenyloxyalkyl, alkylthioalkyl, arylthioalkyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, cycloalkenyl, cycloalkenylalkyl, haloalkyl, haloalkenyl, halocycloalkyl, halocycloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl, heteroaryl, heteroarylalkyl, heteroarylthioalkyl, heteroaralkylthioalkyl, monocarboalkoxyalkyl, dicarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, alkylsulfanyl, alkylsulfonyl, haloalkylsulfanyl, haloalkylsulfonyl, arylsulfanyl, arylsulfanylalkyl, arylsulfonyl, arylsulfonylalkyl, aralkylsulfanyl, aralkylsulfonyl, cycloalkylsulfanyl, cycloalkylsulfonyl,

- cycloalkylsulfonfylalkyl, cycloalkylsufonylalkyl, heteroarylsulfonylalkyl, heteroarylsulfiny, heteroarylsulfonyl, heteroarylsulfinyalkyl, aralkylsulfinyalkyl, aralkylsulfonylalkyl, carboxy, carboxyalkyl, carboalkoxy, carboxamide, carboxamidoalkyl, carboaralkoxy, dialkoxyphosphono, diaralkoxyphosphono, dialkoxyphosphonoalkyl, diaralkoxyphosphonoalkyl, a spacer selected from a moiety having a chain length of 3 to 6 atoms connected to the point of bonding selected from the group consisting of  $R_{XIV-4}$  and  $R_{XIV-8}$  to form a ring selected from the group consisting of a cycloalkenyl ring having from 5 through 8 contiguous members and a heterocyclyl ring having from 5 through 8 contiguous members, and a spacer selected from a moiety having a chain length of 2 to 5 atoms connected to the point of bonding selected from the group consisting of  $R_{XIV-9}$  and  $R_{XIV-13}$  to form a heterocyclyl having from 5 through 8 contiguous members;

- $R_{XIV-15}$  and  $R_{XIV-15}$ , when bonded to the different atoms, are taken together to form a group selected from the group consisting of a covalent bond, alkylene, haloalkylene, and a spacer selected from a group consisting of a moiety having a chain length of 2 to 5 atoms connected to form a ring selected from the group of a saturated cycloalkyl having from 5 through 8 contiguous members, a cycloalkenyl having from 5 through 8 contiguous members, and a heterocyclyl having from 5 through 8 contiguous members;

- $R_{XIV-15}$  and  $R_{XIV-15}$ , when bonded to the same atom are taken together to form a group selected from the group consisting of oxo, thiono, alkylene, haloalkylene, and a spacer selected from the group consisting of a moiety having a chain length of 3 to 7 atoms connected to form a ring selected from the group consisting of a cycloalkyl having from 4 through 8 contiguous members, a cycloalkenyl having from 4 through 8 contiguous members, and a heterocyclyl having from 4 through 8 contiguous members;

$R_{XIV-15}$  is independently selected, when  $Z_{XIV}$  is  $(CH(R_{XIV-15}))_{j_{XIV}}-W-(CH(R_{XIV-15}))_{k_{XIV}}$  wherein  $j_{XIV}$  and  $k_{XIV}$  are integers

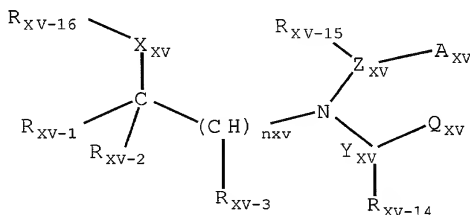
- independently selected from 0 and 1, from the group consisting of hydrido, halo, cyano, aryloxy, carboxyl, acyl, aroyl, heteroaroyl, hydroxyalkyl, heteroaryloxyalkyl, acylamido, alkoxy, alkylthio, arylthio, alkyl, alkenyl, alkynyl, aryl, aralkyl, aryloxyalkyl, alkoxyalkyl, heteroaryloxyalkyl, aralkoxyalkyl, heteroaralkoxyalkyl, alkylsulfonylalkyl, alkylsulfinylalkyl, alkenyloxyalkyl, alkylthioalkyl, arylthioalkyl, cycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, cycloalkenyl, cycloalkenylalkyl, haloalkyl, haloalkenyl, halocycloalkyl, halocycloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl, heteroaryl, heteroarylalkyl, heteroarylthioalkyl, heteroaralkylthioalkyl, monocarboalkoxyalkyl, dicarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, alkylsulfinyl, alkylsulfonyl, haloalkylsulfinyl, haloalkylsulfonyl, arylsulfinyl, arylsulfinylalkyl, arylsulfonyl, arylsulfonylalkyl, aralkylsulfinyl, aralkylsulfonyl, cycloalkylsulfinyl, cycloalkylsulfonyl, cycloalkylsulfinylalkyl, cycloalkylsulfonylalkyl, heteroarylsulfonylalkyl, heteroarylsulfinyl, heteroarylsulfonyl, heteroarylsulfinylalkyl, aralkylsulfinylalkyl, aralkylsulfonylalkyl, carboxyalkyl, carboalkoxy, carboxamide, carboxamidoalkyl, carboaralkoxy, dialkoxyposphonoalkyl, diaralkoxyposphonoalkyl, a spacer selected from a linear moiety having a chain length of 3 to 6 atoms connected to the point of bonding selected from the group consisting of  $R_{XIV-4}$  and  $R_{XIV-8}$  to form a ring selected from the group consisting of a cycloalkenyl ring having from 5 through 8 contiguous members and a heterocyclyl ring having from 5 through 8 contiguous members, and a spacer selected from a linear moiety having a chain length of 2 to 5 atoms connected to the point of bonding selected from the group consisting of  $R_{XIV-9}$  and  $R_{XIV-13}$  to form a heterocyclyl ring having from 5 through 8 contiguous members;

- $R_{XIV-4}$ ,  $R_{XIV-5}$ ,  $R_{XIV-6}$ ,  $R_{XIV-7}$ ,  $R_{XIV-8}$ ,  $R_{XIV-9}$ ,  $R_{XIV-10}$ ,  $R_{XIV-11}$ ,  $R_{XIV-12}$ , and  $R_{XIV-13}$  are independently selected from the group consisting of perhaloaryloxy, alkanoylalkyl, alkanoylalkoxy, alkanoyloxy, N-aryl-N-alkylamino, heterocyclylalkoxy, heterocyclylthio, hydroxyalkoxy, carboxamidoalkoxy, alkoxycarbonylalkoxy, alkoxycarbonylalkenyloxy, aralkanoylalkoxy, aralkenoyl, N-alkylcarboxamido, N-haloalkylcarboxamido, N-cycloalkylcarboxamido, N-arylcarboxamidoalkoxy, cycloalkylcarbonyl, cyanoalkoxy, heterocyclylcarbonyl, hydrido, carboxy, heteroaralkylthio, heteroaralkoxy, cycloalkylamino, acylalkyl, acylalkoxy, aroylalkoxy, heterocycliloxy, aralkylaryl, aralkyl, aralkenyl, aralkynyl, heterocyclyl, perhaloaralkyl, aralkylsulfonyl, aralkylsulfonylalkyl, aralkylsulfinyl, aralkylsulfinylalkyl, halocycloalkyl, halocycloalkenyl, cycloalkylsulfinyl, cycloalkylsulfinylalkyl, cycloalkylsulfonyl, cycloalkylsulfonylalkyl, heteroaryl-amino, N-heteroaryl-amino-N-alkylamino, heteroaryl-aminoalkyl, haloalkylthio, alkanoyloxy, alkoxy, alkoxyalkyl, haloalkoxyalkyl, heteroaralkoxy, cycloalkoxy, cycloalkenyloxy, cycloalkoxyalkyl, cycloalkylalkoxy, cycloalkenyloxyalkyl, cycloalkylenedioxy, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxy, halocycloalkenyloxyalkyl, hydroxy, amino, thio, nitro, lower alkylamino, alkylthio, alkylthioalkyl, arylamino, aralkylamino, arylthio, arylthioalkyl, heteroaralkoxyalkyl, alkylsulfinyl, alkylsulfinylalkyl, arylsulfinylalkyl, arylsulfonylalkyl, heteroarylsulfinylalkyl, heteroarylsulfonylalkyl, alkylsulfonyl, alkylsulfonylalkyl, haloalkylsulfinylalkyl, haloalkylsulfonylalkyl, alkylsulfonamido, alkylaminosulfonyl, amidosulfonyl, monoalkyl amidosulfonyl, dialkyl amidosulfonyl, monoarylamidosulfonyl, arylsulfonamido, diarylamidosulfonyl, monoalkyl monoaryl amidosulfonyl, arylsulfinyl, arylsulfonyl, heteroarylthio, heteroarylsulfinyl, heteroarylsulfonyl, heterocyclylsulfonyl, heterocyclylthio, alkanoyl, alkenoyl, aroyl, heteroaroyl, aralkanoyl, heteroaralkanoyl, haloalkanoyl, alkyl, alkenyl, alkynyl, alkenyloxy, alkenyloxyalkyl, alkylenedioxy,

- haloalkylenedioxy, cycloalkyl, cycloalkylalkanoyl, cycloalkenyl, lower cycloalkylalkyl, lower cycloalkenylalkyl, halo, haloalkyl; haloalkenyl, haloalkoxy, hydroxyhaloalkyl, hydroxyaralkyl, hydroxyalkyl, hydroxyheteroaralkyl,
- 5 haloalkoxyalkyl, aryl, heteroaralkynyl, aryloxy, aralkoxy, aryloxyalkyl, saturated heterocyclyl, partially saturated heterocyclyl, heteroaryl, heteroaryloxy, heteroaryloxyalkyl, arylalkenyl, heteroarylalkenyl, carboxyalkyl, carboalkoxy, alkoxycarboxamido, alkylamidocarbonylamido,
- 10 arylamidocarbonylamido, carboalkoxyalkyl, carboalkoxyalkenyl, carboaralkoxy, carboxamido, carboxamidoalkyl, cyano, carbohaloalkoxy, phosphono, phosphonoalkyl, diaralkoxyphosphono, and diaralkoxyphosphonoalkyl with the proviso that there are one to five non-hydrido ring
- 15 substituents  $R_{XIV-4}$ ,  $R_{XIV-5}$ ,  $R_{XIV-6}$ ,  $R_{XIV-7}$ , and  $R_{XIV-8}$  present, that there are one to five non-hydrido ring substituents  $R_{XIV-9}$ ,  $R_{XIV-10}$ ,  $R_{XIV-11}$ ,  $R_{XIV-12}$ , and  $R_{XIV-13}$  present, and  $R_{XIV-4}$ ,  $R_{XIV-5}$ ,  $R_{XIV-6}$ ,  $R_{XIV-7}$ ,  $R_{XIV-8}$ ,  $R_{XIV-9}$ ,  $R_{XIV-10}$ ,  $R_{XIV-11}$ ,  $R_{XIV-12}$ , and  $R_{XIV-13}$  are each independently selected to maintain the tetravalent nature of
- 20 carbon, trivalent nature of nitrogen, the divalent nature of sulfur, and the divalent nature of oxygen;
- $R_{XIV-4}$  and  $R_{XIV-5}$ ,  $R_{XIV-5}$  and  $R_{XIV-6}$ ,  $R_{XIV-6}$  and  $R_{XIV-7}$ ,  $R_{XIV-7}$  and  $R_{XIV-8}$ ,  $R_{XIV-8}$  and  $R_{XIV-9}$ ,  $R_{XIV-9}$  and  $R_{XIV-10}$ ,  $R_{XIV-10}$  and  $R_{XIV-11}$ ,  $R_{XIV-11}$  and  $R_{XIV-12}$ , and  $R_{XIV-12}$  and  $R_{XIV-13}$  are independently selected to form
- 25 spacer pairs wherein a spacer pair is taken together to form a linear moiety having from 3 through 6 contiguous atoms connecting the points of bonding of said spacer pair members to form a ring selected from the group consisting of a cycloalkenyl ring having 5 through 8 contiguous members, a
- 30 partially saturated heterocyclyl ring having 5 through 8 contiguous members, a heteroaryl ring having 5 through 6 contiguous members, and an aryl with the provisos that no more than one of the group consisting of spacer pairs  $R_{XIV-4}$  and  $R_{XIV-5}$ ,  $R_{XIV-5}$  and  $R_{XIV-6}$ ,  $R_{XIV-6}$  and  $R_{XIV-7}$ , and  $R_{XIV-7}$  and  $R_{XIV-8}$  are used
- 35 at the same time and that no more than one of the group consisting of spacer pairs  $R_{XIV-9}$  and  $R_{XIV-10}$ ,  $R_{XIV-10}$  and  $R_{XIV-11}$ ,  $R_{XIV-11}$  and  $R_{XIV-12}$ , and  $R_{XIV-12}$  and  $R_{XIV-13}$  are used at the same time;

$R_{XIV-4}$  and  $R_{XIV-9}$ ,  $R_{XIV-4}$  and  $R_{XIV-13}$ ,  $R_{XIV-8}$  and  $R_{XIV-9}$ , and  $R_{XIV-8}$  and  $R_{XIV-13}$   
 are independently selected to form a spacer pair wherein said  
 spacer pair is taken together to form a linear moiety wherein  
 said linear moiety forms a ring selected from the group  
 consisting of a partially saturated heterocyclyl ring having  
 from 5 through 8 contiguous members and a heteroaryl ring  
 having from 5 through 6 contiguous members with the proviso  
 that no more than one of the group consisting of spacer pairs  
 $R_{XIV-4}$  and  $R_{XIV-9}$ ,  $R_{XIV-4}$  and  $R_{XIV-13}$ ,  $R_{XIV-8}$  and  $R_{XIV-9}$ , and  $R_{XIV-8}$  and  $R_{XIV-13}$   
 is used at the same time;

Formula XV is

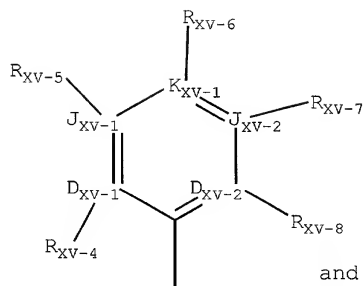
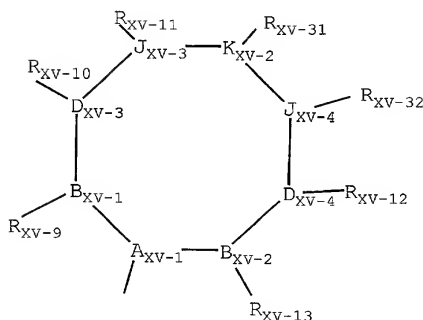


Formula XV

and pharmaceutically acceptable forms thereof, wherein:

$n_{XV}$  is an integer selected from 1 through 2;

$A_{XV}$  and  $Q_{XV}$  are independently selected from the group  
 consisting of  $-CH_2(CR_{XV-37}R_{XV-38})_{v_{XV}}-(CR_{XV-33}R_{XV-34})_{u_{XV}}-T_{XV}-$   
 $(CR_{XV-35}R_{XV-36})_{w_{XV}}-H$ ,

**AQ-1****AQ-2**

with the provisos that one of  $A_{XV}$  and  $Q_{XV}$  must be AQ-1 and that one of  $A_{XV}$  and  $Q_{XV}$  must be selected from the group consisting of

AQ-2 and  $-CH_2(CR_{XV-37}R_{XV-38})_{v_{XV}}-(CR_{XV-33}R_{XV-34})_{u_{XV}}-T_{XV}-(CR_{XV-35}R_{XV-36})_{w_{XV}}-H$ ;

- 5  $T_{XV}$  is selected from the group consisting of a single covalent bond, O, S, S(O), S(O)<sub>2</sub>, C(R<sub>XV-33</sub>)=C(R<sub>XV-35</sub>), and

$C \equiv C$ ;

$v_{XV}$  is an integer selected from 0 through 1 with the proviso that  $v_{XV}$  is 1 when any one of  $R_{XV-33}$ ,  $R_{XV-34}$ ,  $R_{XV-35}$ , and  $R_{XV-36}$  is aryl or heteroaryl;

- 10  $u_{XV}$  and  $w_{XV}$  are integers independently selected from 0 through 6;

$A_{XV-1}$  is  $C(R_{XV-30})$ ;

- $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  are independently selected from the group consisting of C, N, O, S and a covalent bond with the provisos that no more than one of  $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  is a covalent bond, no more than one of  $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  is O, no more than one of  $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  is S, one of  $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  must be a covalent bond when two of  $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  are O and S, and no more than four of  $D_{XV-1}$ ,  $D_{XV-2}$ ,  $J_{XV-1}$ ,  $J_{XV-2}$ , and  $K_{XV-1}$  are N;

- $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are independently selected from the group consisting of C,  $C(R_{XV-30})$ , N, O, S and a covalent bond with the provisos that no more than 5 of  $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are a covalent bond, no more than two of  $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are O, no more than two of  $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are S, no more than two of  $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are simultaneously O and S, and no more than two of  $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are N;

- $B_{XV-1}$  and  $D_{XV-3}$ ,  $D_{XV-3}$  and  $J_{XV-3}$ ,  $J_{XV-3}$  and  $K_{XV-2}$ ,  $K_{XV-2}$  and  $J_{XV-4}$ ,  $J_{XV-4}$  and  $D_{XV-4}$ , and  $D_{XV-4}$  and  $B_{XV-2}$  are independently selected to form an in-ring spacer pair wherein said spacer pair is selected from the group consisting of  $C(R_{XV-33})=C(R_{XV-35})$  and  $N=N$  with the provisos that AQ-2 must be a ring of at least five contiguous members, that no more than two of the group of said spacer pairs are simultaneously  $C(R_{XV-33})=C(R_{XV-35})$  and that no more than one of the group of said spacer pairs can be  $N=N$  unless the other spacer pairs are other than  $C(R_{XV-33})=C(R_{XV-35})$ , O, N, and S;

- $R_{XV-1}$  is selected from the group consisting of haloalkyl and haloalkoxymethyl;

- $R_{XV-2}$  is selected from the group consisting of hydrido, aryl, alkyl, alkenyl, haloalkyl, haloalkoxy, haloalkoxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl and heteroaryl;

$R_{XV-3}$  is selected from the group consisting of hydrido, aryl, alkyl, alkenyl, haloalkyl, and haloalkoxyalkyl;

$Y_{XV}$  is selected from the group consisting of a covalent single bond,  $(CH_2)_q$  wherein  $q$  is an integer selected from 1 through 2 and  $(CH_2)_j-O-(CH_2)_k$  wherein  $j$  and  $k$  are integers independently selected from 0 through 1;

- 5  $Z_{XV}$  is selected from the group consisting of covalent single bond,  $(CH_2)_q$  wherein  $q$  is an integer selected from 1 through 2, and  $(CH_2)_j-O-(CH_2)_k$  wherein  $j$  and  $k$  are integers independently selected from 0 through 1;

- 10  $R_{XV-4}$ ,  $R_{XV-8}$ ,  $R_{XV-9}$  and  $R_{XV-13}$  are independently selected from the group consisting of hydrido, halo, haloalkyl, and alkyl;

- $R_{XV-30}$  is selected from the group consisting of hydrido, alkoxy, alkoxyalkyl, halo, haloalkyl, alkylamino, alkylthio, alkylthioalkyl, alkyl, alkenyl, haloalkoxy, and haloalkoxyalkyl with the proviso that  $R_{XV-30}$  is selected to  
15 maintain the tetravalent nature of carbon, trivalent nature of nitrogen, the divalent nature of sulfur, and the divalent nature of oxygen;

- $R_{XV-30}$ , when bonded to  $A_{XV-1}$ , is taken together to form an intra-ring linear spacer connecting the  $A_{XV-1}$ -carbon at the  
20 point of attachment of  $R_{XV-30}$  to the point of bonding of a group selected from the group consisting of  $R_{XV-10}$ ,  $R_{XV-11}$ ,  $R_{XV-12}$ ,  $R_{XV-31}$ , and  $R_{XV-32}$  wherein said intra-ring linear spacer is selected from the group consisting of a covalent single bond and a spacer moiety having from 1 through 6 contiguous atoms to form  
25 a ring selected from the group consisting of a cycloalkyl having from 3 through 10 contiguous members, a cycloalkenyl having from 5 through 10 contiguous members, and a heterocyclyl having from 5 through 10 contiguous members;

- $R_{XV-30}$ , when bonded to  $A_{XV-1}$ , is taken together to form an  
30 intra-ring branched spacer connecting the  $A_{XV-1}$ -carbon at the point of attachment of  $R_{XV-30}$  to the points of bonding of each member of any one of substituent pairs selected from the group consisting of substituent pairs  $R_{XV-10}$  and  $R_{XV-11}$ ,  $R_{XV-10}$  and  $R_{XV-31}$ ,  $R_{XV-10}$  and  $R_{XV-32}$ ,  $R_{XV-10}$  and  $R_{XV-12}$ ,  $R_{XV-11}$  and  $R_{XV-31}$ ,  $R_{XV-11}$  and  $R_{XV-32}$ ,  
35  $R_{XV-11}$  and  $R_{XV-12}$ ,  $R_{XV-31}$  and  $R_{XV-32}$ ,  $R_{XV-31}$  and  $R_{XV-12}$ , and  $R_{XV-32}$  and  $R_{XV-12}$  and wherein said intra-ring branched spacer is selected to form two rings selected from the group consisting of

cycloalkyl having from 3 through 10 contiguous members, cycloalkenyl having from 5 through 10 contiguous members, and heterocyclyl having from 5 through 10 contiguous members;

- R<sub>XV-4</sub>, R<sub>XV-5</sub>, R<sub>XV-6</sub>, R<sub>XV-7</sub>, R<sub>XV-8</sub>, R<sub>XV-9</sub>, R<sub>XV-10</sub>, R<sub>XV-11</sub>, R<sub>XV-12</sub>, R<sub>XV-13</sub>,  
 5 R<sub>XV-31</sub>, R<sub>XV-32</sub>, R<sub>XV-33</sub>, R<sub>XV-34</sub>, R<sub>XV-35</sub>, and R<sub>XV-36</sub> are independently selected from the group consisting of hydrido, carboxy, heteroaralkylthio, heteroaralkoxy, cycloalkylamino, acylalkyl, acylalkoxy, aroylalkoxy, heterocyclyloxy, aralkylaryl, aralkyl, aralkenyl, aralkynyl, heterocyclyl, perhaloaralkyl,  
 10 aralkylsulfonyl, aralkylsulfonylalkyl, aralkylsulfinyl, aralkylsulfinylalkyl, halocycloalkyl, halocycloalkenyl, cycloalkylsulfinyl, cycloalkylsulfinylalkyl, cycloalkylsulfonyl, cycloalkylsulfonylalkyl, heteroaryl amino, N-heteroaryl amino-N-alkyl amino, heteroaryl aminoalkyl,  
 15 haloalkylthio, alkanoyloxy, alkoxy, alkoxyalkyl, haloalkoxyalkyl, heteroaralkoxy, cycloalkoxy, cycloalkenyloxy, cycloalkoxyalkyl, cycloalkylalkoxy, cycloalkenyloxyalkyl, cycloalkylenedioxy, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxy,  
 20 halocycloalkenyloxyalkyl, hydroxy, amino, thio, nitro, lower alkyl amino, alkylthio, alkylthioalkyl, aryl amino, aralkyl amino, arylthio, arylthioalkyl, heteroaralkoxyalkyl, alkylsulfinyl, alkylsulfinylalkyl, arylsulfinylalkyl, arylsulfonylalkyl, heteroaryl sulfinylalkyl,  
 25 heteroaryl sulfonylalkyl, alkylsulfonyl, alkylsulfonylalkyl, haloalkylsulfinylalkyl, haloalkylsulfonylalkyl, alkylsulfonylamido, alkylaminosulfonyl, amidosulfonyl, monoalkyl amidosulfonyl, dialkyl amidosulfonyl, monoaryl amidosulfonyl, arylsulfonylamido, diarylamidosulfonyl, monoalkyl monoaryl  
 30 amidosulfonyl, arylsulfinyl, arylsulfonyl, heteroarylthio, heteroaryl sulfinyl, heteroaryl sulfonyl, heterocyclylsulfonyl, heterocyclylthio, alkanoyl, alkenoyl, aroyl, heteroaroyl, aralkanoyl, heteroaralkanoyl, haloalkanoyl, alkyl, alkenyl, alkynyl, alkenyloxy, alkenyloxyalkyl, alkylenedioxy,  
 35 haloalkylenedioxy, cycloalkyl, cycloalkylalkanoyl, cycloalkenyl, lower cycloalkylalkyl, lower cycloalkenylalkyl, halo, haloalkyl, haloalkenyl, haloalkoxy, hydroxyhaloalkyl,

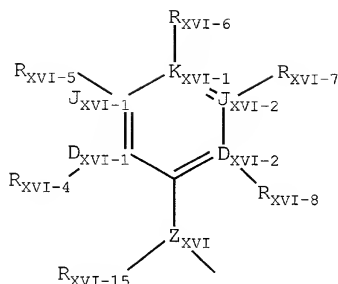
- hydroxyaralkyl, hydroxyalkyl, hydroxyheteroaralkyl, haloalkoxyalkyl, aryl, heteroaralkynyl, aryloxy, aralkoxy, aryloxyalkyl, saturated heterocyclyl, partially saturated heterocyclyl, heteroaryl, heteroaryloxy, heteroaryloxyalkyl,
- 5 arylalkenyl, heteroarylalkenyl, carboxyalkyl, carboalkoxy, alkoxycarboxamido, alkylamidocarbonylamido, alkylamidocarbonylamido, carboalkoxyalkyl, carboalkoxyalkenyl, carboaralkoxy, carboxamido, carboxamidoalkyl, cyano, carbohaloalkoxy, phosphono, phosphonoalkyl,
- 10 diaralkoxyphosphono, and diaralkoxyphosphonoalkyl with the provisos that  $R_{XV-4}$ ,  $R_{XV-5}$ ,  $R_{XV-6}$ ,  $R_{XV-7}$ ,  $R_{XV-8}$ ,  $R_{XV-9}$ ,  $R_{XV-10}$ ,  $R_{XV-11}$ ,  $R_{XV-12}$ ,  $R_{XV-13}$ ,  $R_{XV-31}$ ,  $R_{XV-32}$ ,  $R_{XV-33}$ ,  $R_{XV-34}$ ,  $R_{XV-35}$ , and  $R_{XV-36}$  are each independently selected to maintain the tetravalent nature of carbon, trivalent nature of nitrogen, the divalent nature of
- 15 sulfur, and the divalent nature of oxygen, that no more than three of the  $R_{XV-33}$  and  $R_{XV-34}$  substituents are simultaneously selected from other than the group consisting of hydrido and halo, and that no more than three of the  $R_{XV-35}$  and  $R_{XV-36}$  substituents are simultaneously selected from other than the
- 20 group consisting of hydrido and halo;
- $R_{XV-9}$ ,  $R_{XV-10}$ ,  $R_{XV-11}$ ,  $R_{XV-12}$ ,  $R_{XV-13}$ ,  $R_{XV-31}$ , and  $R_{XV-32}$  are independently selected to be oxo with the provisos that  $B_{XV-1}$ ,  $B_{XV-2}$ ,  $D_{XV-3}$ ,  $D_{XV-4}$ ,  $J_{XV-3}$ ,  $J_{XV-4}$ , and  $K_{XV-2}$  are independently selected from the group consisting of C and S, no more than two of  $R_{XV-9}$ ,
- 25  $R_{XV-10}$ ,  $R_{XV-11}$ ,  $R_{XV-12}$ ,  $R_{XV-13}$ ,  $R_{XV-31}$ , and  $R_{XV-32}$  are simultaneously oxo, and that  $R_{XV-9}$ ,  $R_{XV-10}$ ,  $R_{XV-11}$ ,  $R_{XV-12}$ ,  $R_{XV-13}$ ,  $R_{XV-31}$ , and  $R_{XV-32}$  are each independently selected to maintain the tetravalent nature of carbon, trivalent nature of nitrogen, the divalent nature of sulfur, and the divalent nature of oxygen;
- 30  $R_{XV-4}$  and  $R_{XV-5}$ ,  $R_{XV-5}$  and  $R_{XV-6}$ ,  $R_{XV-6}$  and  $R_{XV-7}$ ,  $R_{XV-7}$  and  $R_{XV-8}$ ,  $R_{XV-9}$  and  $R_{XV-10}$ ,  $R_{XV-10}$  and  $R_{XV-11}$ ,  $R_{XV-11}$  and  $R_{XV-31}$ ,  $R_{XV-31}$  and  $R_{XV-32}$ ,  $R_{XV-32}$  and  $R_{XV-12}$ , and  $R_{XV-12}$  and  $R_{XV-13}$  are independently selected to form spacer pairs wherein a spacer pair is taken together to form a linear moiety having from 3 through 6 contiguous atoms
- 35 connecting the points of bonding of said spacer pair members to form a ring selected from the group consisting of a cycloalkenyl ring having 5 through 8 contiguous members, a

partially saturated heterocyclyl ring having 5 through 8 contiguous members, a heteroaryl ring having 5 through 6 contiguous members, and an aryl with the provisos that no more than one of the group consisting of spacer pairs  $R_{XV-4}$  and  $R_{XV-5}$ ,  $R_{XV-5}$  and  $R_{XV-6}$ ,  $R_{XV-6}$  and  $R_{XV-7}$ ,  $R_{XV-7}$  and  $R_{XV-8}$  is used at the same time and that no more than one of the group consisting of spacer pairs  $R_{XV-9}$  and  $R_{XV-10}$ ,  $R_{XV-10}$  and  $R_{XV-11}$ ,  $R_{XV-11}$  and  $R_{XV-31}$ ,  $R_{XV-31}$  and  $R_{XV-32}$ ,  $R_{XV-32}$  and  $R_{XV-12}$ , and  $R_{XV-12}$  and  $R_{XV-13}$  are used at the same time;

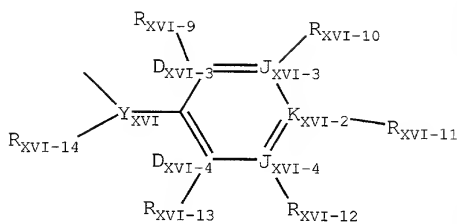
$R_{XV-9}$  and  $R_{XV-11}$ ,  $R_{XV-9}$  and  $R_{XV-12}$ ,  $R_{XV-9}$  and  $R_{XV-13}$ ,  $R_{XV-9}$  and  $R_{XV-31}$ ,  $R_{XV-9}$  and  $R_{XV-32}$ ,  $R_{XV-10}$  and  $R_{XV-12}$ ,  $R_{XV-10}$  and  $R_{XV-13}$ ,  $R_{XV-10}$  and  $R_{XV-31}$ ,  $R_{XV-10}$  and  $R_{XV-32}$ ,  $R_{XV-11}$  and  $R_{XV-12}$ ,  $R_{XV-11}$  and  $R_{XV-13}$ ,  $R_{XV-11}$  and  $R_{XV-32}$ ,  $R_{XV-12}$  and  $R_{XV-31}$ ,  $R_{XV-13}$  and  $R_{XV-31}$ , and  $R_{XV-13}$  and  $R_{XV-32}$  are independently selected to form a spacer pair wherein said spacer pair is taken together to form a linear spacer moiety selected from the group consisting of a covalent single bond and a moiety having from 1 through 3 contiguous atoms to form a ring selected from the group consisting of a cycloalkyl having from 3 through 8 contiguous members, a cycloalkenyl having from 5 through 8 contiguous members, a saturated heterocyclyl having from 5 through 8 contiguous members and a partially saturated heterocyclyl having from 5 through 8 contiguous members with the provisos that no more than one of said group of spacer pairs is used at the same time;

$R_{XV-37}$  and  $R_{XV-38}$  are independently selected from the group consisting of hydrido, alkoxy, alkoxyalkyl, hydroxy, amino, thio, halo, haloalkyl, alkylamino, alkylthio, alkylthioalkyl, cyano, alkyl, alkenyl, haloalkoxy, and haloalkoxyalkyl;





XVI-II



XVI-III

$R_{XVI-16}$  is selected from the group consisting of hydrido, alkyl, acyl, aroyl, heteroaroyl, trialkylsilyl, and a spacer selected from the group consisting of a covalent single bond and a linear spacer moiety having a chain length of 1 to 4 atoms linked to the point of bonding of any aromatic substituent selected from the group consisting of  $R_{XVI-4}$ ,  $R_{XVI-8}$ ,  $R_{XVI-9}$ , and  $R_{XVI-13}$  to form a heterocyclcyl ring having from 5 through 10 contiguous members;

$D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  are independently selected from the group consisting of C, N, O, S and covalent bond with the provisos that no more than one of  $D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  is a covalent bond, no more than one  $D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  is be O, no more than one of  $D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  is S, one of  $D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  must be a covalent bond when two of  $D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  are O and S, and no more than four of  $D_{XVI-1}$ ,  $D_{XVI-2}$ ,  $J_{XVI-1}$ ,  $J_{XVI-2}$  and  $K_{XVI-1}$  is N;

$D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  are independently selected from the group consisting of C, N, O, S and covalent bond with the provisos that no more than one is a covalent bond, no more than one of  $D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  is O, no more than one of  $D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  is S, no more than two of  $D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  is O and S, one of  $D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  must be a covalent bond when two of

$D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  are O and S, and no more than four of  $D_{XVI-3}$ ,  $D_{XVI-4}$ ,  $J_{XVI-3}$ ,  $J_{XVI-4}$  and  $K_{XVI-2}$  are N;

- $R_{XVI-2}$  is selected from the group consisting of hydrido, aryl, aralkyl, alkyl, alkenyl, alkenyloxyalkyl, haloalkyl, haloalkenyl, halocycloalkyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, halocycloalkoxy, halocycloalkoxyalkyl, perhaloaryl, perhaloaralkyl, perhaloaryloxyalkyl, heteroaryl, dicyanoalkyl, and carboalkoxycyanoalkyl, with the proviso that  $R_{XVI-2}$  has a lower Cahn-Ingold-Prelog system ranking than both  $R_{XVI-1}$  and  $(CHR_{XVI-3})_n-N(A_{XVI})Q_{XVI}$ ;

- $R_{XVI-3}$  is selected from the group consisting of hydrido, hydroxy, cyano, aryl, aralkyl, acyl, alkoxy, alkyl, alkenyl, alkoxyalkyl, heteroaryl, alkenyloxyalkyl, haloalkyl, haloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, monocyanoalkyl, dicyanoalkyl, carboxamide, and carboxamidoalkyl, with the provisos that  $(CHR_{XVI-3})_n-N(A_{XVI})Q_{XVI}$  has a lower Cahn-Ingold-Prelog stereochemical system ranking than  $R_{XVI-1}$  and a higher Cahn-Ingold-Prelog stereochemical system ranking than  $R_{XVI-2}$ ;

- $Y_{XVI}$  is selected from a group consisting of a covalent single bond,  $(C(R_{XVI-14})_2)_q$  wherein q is an integer selected from 1 and 2 and  $(CH(R_{XVI-14}))_g-W_{XVI}-(CH(R_{XVI-14}))_p$  wherein g and p are integers independently selected from 0 and 1;

- $R_{XVI-14}$  is selected from the group consisting of hydrido, hydroxy, cyano, hydroxyalkyl, acyl, alkoxy, alkyl, alkenyl, alkynyl, alkoxyalkyl, haloalkyl, haloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, monocarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, carboalkoxy, carboxamide, and carboxamidoalkyl;

- $Z_{XVI}$  is selected from a group consisting of a covalent single bond,  $(C(R_{XVI-15})_2)_q$ , wherein q is an integer selected from 1 and 2, and  $(CH(R_{XVI-15}))_j-W_{XVI}-(CH(R_{XVI-15}))_k$  wherein j and k are integers independently selected from 0 and 1;

- $W_{XVI}$  is selected from the group consisting of O, C(O), C(S), C(O)N( $R_{XVI-14}$ ), C(S)N( $R_{XVI-14}$ ), ( $R_{XVI-14}$ )NC(O), ( $R_{XVI-14}$ )NC(S), S, S(O), S(O)<sub>2</sub>, S(O)<sub>2</sub>N( $R_{XVI-14}$ ), ( $R_{XVI-14}$ )NS(O)<sub>2</sub>, and N( $R_{XVI-14}$ ) with the proviso that  $R_{XVI-14}$  is other than cyano;

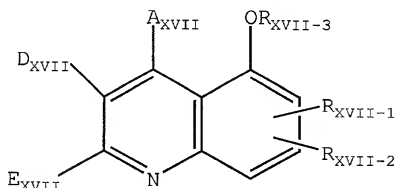
$R_{XVI-15}$  is selected, from the group consisting of hydrido, cyano, hydroxyalkyl, acyl, alkoxy, alkyl, alkenyl, alkynyl, alkoxyalkyl, haloalkyl, haloalkenyl, haloalkoxy, haloalkoxyalkyl, haloalkenyloxyalkyl, monocarboalkoxyalkyl, monocyanoalkyl, dicyanoalkyl, carboalkoxycyanoalkyl, carboalkoxy, carboxamide, and carboxamidoalkyl;

$R_{XVI-4}$ ,  $R_{XVI-5}$ ,  $R_{XVI-6}$ ,  $R_{XVI-7}$ ,  $R_{XVI-8}$ ,  $R_{XVI-9}$ ,  $R_{XVI-10}$ ,  $R_{XVI-11}$ ,  $R_{XVI-12}$ , and  $R_{XVI-13}$  are independently selected from the group consisting of hydrido, carboxy, heteroaralkylthio, heteroaralkoxy, cycloalkylamino, acylalkyl, acylalkoxy, aroylalkoxy, heterocyclyloxy, aralkylaryl, aralkyl, aralkenyl, aralkynyl, heterocyclyl, perhaloaralkyl, aralkylsulfonyl, aralkylsulfonylalkyl, aralkylsulfinyl, aralkylsulfinylalkyl, halocycloalkyl, halocycloalkenyl, cycloalkylsulfinyl, cycloalkylsulfinylalkyl, cycloalkylsulfonyl, cycloalkylsulfonylalkyl, heteroaryl amino, N-heteroaryl amino, N-alkyl amino, heteroaralkyl, heteroaryl aminoalkyl, haloalkylthio, alkanoyloxy, alkoxy, alkoxyalkyl, haloalkoxyalkyl, heteroaralkoxy, cycloalkoxy, cycloalkenyloxy, cycloalkoxyalkyl, cycloalkylalkoxy, cycloalkenyloxyalkyl, cycloalkylenedioxy, halocycloalkoxy, halocycloalkoxyalkyl, halocycloalkenyloxy, halocycloalkenyloxyalkyl, hydroxy, amino, thio, nitro, lower alkyl amino, alkylthio, alkylthioalkyl, aryl amino, aralkyl amino, arylthio, arylthioalkyl, heteroaralkoxyalkyl, aralkylsulfinyl, alkylsulfinylalkyl, arylsulfinylalkyl, arylsulfonylalkyl, heteroaryl sulfinylalkyl, heteroaryl sulfonylalkyl, alkylsulfonyl, alkylsulfonylalkyl, haloalkylsulfinylalkyl, haloalkylsulfonylalkyl, alkylsulfonamido, alkylaminosulfonyl, amidosulfonyl, monoalkyl amidosulfonyl, dialkyl, amidosulfonyl, monoaryl amidosulfonyl, arylsulfonamido, diarylamidosulfonyl, monoalkyl monoaryl amidosulfonyl, arylsulfinyl, arylsulfonyl, heteroarylthio, heteroaryl sulfinyl, heteroaryl sulfonyl, heterocyclylsulfonyl, heterocyclylthio, alkanoyl, alkenoyl, aroyl, heteroaroyl, aralkanoyl, heteroaralkanoyl, haloalkanoyl, alkyl, alkenyl, alkynyl, alkenyloxy, alkenyloxyalkyl, alkylenedioxy,

- haloalkylenedioxy, cycloalkyl, cycloalkylalkanoyl, cycloalkenyl, lower cycloalkylalkyl, lower cycloalkenylalkyl, halo, haloalkyl, haloalkenyl, haloalkoxy, hydroxyhaloalkyl, hydroxyaralkyl, hydroxyalkyl, hydroxyheteroaralkyl,
- 5 haloalkoxyalkyl, aryl, heteroaralkynyl, aryloxy, aralkoxy, aryloxyalkyl, saturated heterocyclyl, partially saturated heterocyclyl, heteroaryl, heteroaryloxy, heteroaryloxyalkyl, arylalkenyl, heteroarylalkenyl, carboxyalkyl, carboalkoxy, alkoxycarboxamido, alkylamidocarbonylamido,
- 10 arylamidocarbonylamido, carboalkoxyalkyl, carboalkoxyalkenyl, carboaralkoxy, carboxamido, carboxamidoalkyl, cyano, carbohaloalkoxy, phosphono, phosphonoalkyl, diaralkoxyphosphono, and diaralkoxyphosphonoalkyl with the proviso that  $R_{XVI-4}$ ,  $R_{XVI-5}$ ,  $R_{XVI-6}$ ,  $R_{XVI-7}$ ,  $R_{XVI-8}$ ,  $R_{XVI-9}$ ,  $R_{XVI-10}$ ,  $R_{XVI-11}$ ,
- 15  $R_{XVI-12}$ , and  $R_{XVI-13}$  are each independently selected to maintain the tetravalent nature of carbon, trivalent nature of nitrogen, the divalent nature of sulfur, and the divalent nature of oxygen;
- $R_{XVI-4}$  and  $R_{XVI-5}$ ,  $R_{XVI-5}$  and  $R_{XVI-6}$ ,  $R_{XVI-6}$  and  $R_{XVI-7}$ ,  $R_{XVI-7}$  and
- 20  $R_{XVI-8}$ ,  $R_{XVI-9}$  and  $R_{XVI-10}$ ,  $R_{XVI-10}$  and  $R_{XVI-11}$ ,  $R_{XVI-11}$  and  $R_{XVI-12}$ , and  $R_{XVI-12}$  and  $R_{XVI-13}$  are independently selected to form spacer pairs wherein a spacer pair is taken together to form a linear moiety having from 3 through 6 contiguous atoms connecting the points of bonding of said spacer pair members to form a ring
- 25 selected from the group consisting of a cycloalkenyl ring having 5 through 8 contiguous members, a partially saturated heterocyclyl ring having 5 through 8 contiguous members, a heteroaryl ring having 5 through 6 contiguous members, and an aryl with the provisos that no more than one of the group
- 30 consisting of spacer pairs  $R_{XVI-4}$  and  $R_{XVI-5}$ ,  $R_{XVI-5}$  and  $R_{XVI-6}$ ,  $R_{XVI-6}$  and  $R_{XVI-7}$ , and  $R_{XVI-7}$  and  $R_{XVI-8}$  is used at the same time and that no more than one of the group consisting of spacer pairs  $R_{XVI-9}$  and  $R_{XVI-10}$ ,  $R_{XVI-10}$  and  $R_{XVI-11}$ ,  $R_{XVI-11}$  and  $R_{XVI-12}$ , and  $R_{XVI-12}$  and  $R_{XVI-13}$  can be used at the same time;
- 35  $R_{XVI-4}$  and  $R_{XVI-9}$ ,  $R_{XVI-4}$  and  $R_{XVI-13}$ ,  $R_{XVI-8}$  and  $R_{XVI-9}$ , and  $R_{XVI-8}$  and  $R_{XVI-13}$  is independently selected to form a spacer pair wherein said spacer pair is taken together to form a linear moiety

- wherein said linear moiety forms a ring selected from the group consisting of a partially saturated heterocyclcyl ring having from 5 through 8 contiguous members and a heteroaryl ring having from 5 through 6 contiguous members with the proviso that no more than one of the group consisting of
- 5 spacer pairs  $R_{XVI-4}$  and  $R_{XVI-9}$ ,  $R_{XVI-4}$  and  $R_{XVI-13}$ ,  $R_{XVI-8}$  and  $R_{XVI-9}$ , and  $R_{XVI-8}$  and  $R_{XVI-13}$  is used at the same time.

Formula XVII is



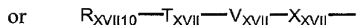
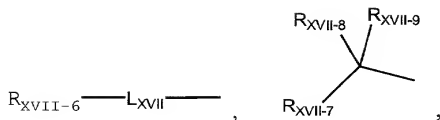
Formula XVII

and pharmaceutically acceptable forms thereof, wherein:

- $A_{XVII}$  denotes an aryl containing 6 to 10 carbon atoms,
- 15 which is optionally substituted with up to five identical or different substituents in the form of a halogen, nitro, hydroxyl, trifluoromethyl, trifluoromethoxy or a straight-chain or branched alkyl, acyl, hydroxyalkyl or alkoxy containing up to 7 carbon atoms each, or in the form of a
- 20 group according to the formula  $-NR_{XVII-4}R_{XVII-5}$ , wherein

$R_{XVII-4}$  and  $R_{XVII-5}$  are identical or different and denote a hydrogen, phenyl or a straight-chain or branched alkyl containing up to 6 carbon atoms,

- $D_{XVII}$  denotes an aryl containing 6 to 10 carbon atoms,
- 25 which is optionally substituted with a phenyl, nitro, halogen, trifluoromethyl or trifluoromethoxy, or a radical according to the formula



wherein

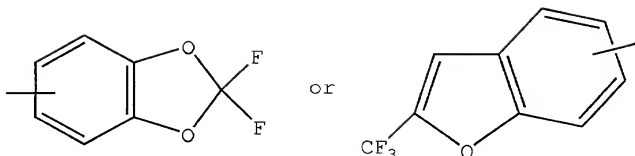
$R_{XVII-6}$ ,  $R_{XVII-7}$ ,  $R_{XVII-10}$  denote, independently from one another, a cycloalkyl containing 3 to 6 carbon atoms, or an aryl containing 6 to 10 carbon atom or a 5- to 7-membered, optionally benzo-condensed, saturated or unsaturated, mono-, bi- or tricyclic heterocycle containing up to 4 heteroatoms from the series of S, N and/or O, wherein the rings are optionally substituted, in the case of the nitrogen-containing rings also via the N function, with up to five identical or different substituents in the form of a halogen, trifluoromethyl, nitro, hydroxyl, cyano, carboxyl, trifluoromethoxy, a straight-chain or branched acyl, alkyl, alkylthio, alkylalkoxy, alkoxy or alkoxycarbonyl containing up to 6 carbon atoms each, an aryl or trifluoromethyl-substituted aryl containing 6 to 10 carbon atoms each, or an optionally benzo-condensed, aromatic 5- to 7-membered heterocycle containing up to 3 heteroatoms from the series of S, N and/or O, and/or in the form of a group according to the formula

$-OR_{XVII-11}$ ,  $-SR_{XVII-12}$ ,  $-SO_2R_{XVII-13}$ , or  $-NR_{XVII-14}R_{XVII-15}$ ;

$R_{XVII-11}$ ,  $R_{XVII-12}$ , and  $R_{XVII-13}$  denote, independently from one another, an aryl containing 6 to 10 carbon atoms, which is in turn substituted with up to two identical or different substituents in the form of a phenyl, halogen or a straight-chain or branched alkyl containing up to 6 carbon atoms,

$R_{XVII-14}$  and  $R_{XVII-15}$  are identical or different and have the meaning of  $R_{XVII-4}$  and  $R_{XVII-5}$  given above, or

$R_{XVII-6}$  and/or  $R_{XVII-7}$  denote a radical according to the formula



$R_{XVII-8}$  denotes a hydrogen or halogen, and

- 5  $R_{XVII-9}$  denotes a hydrogen, halogen, azido, trifluoromethyl, hydroxyl, trifluoromethoxy, a straight-chain or branched alkoxy or alkyl containing up to 6 carbon atoms each, or a radical according to the formula  $NR_{XVII-16}R_{XVII-17}$ ;

$R_{XVII-16}$  and  $R_{XVII-17}$  are identical or different and have the meaning of  $R_{XVII-4}$  and  $R_{XVII-5}$  above; or

- 10  $R_{XVII-8}$  and  $R_{XVII-9}$  together form a radical according to the formula  $=O$  or  $=NR_{XVII-18}$ ;

$R_{XVII-18}$  denotes a hydrogen or a straight-chain or branched alkyl, alkoxy or acyl containing up to 6 carbon atoms each;

- 15  $L_{XVII}$  denotes a straight-chain or branched alkylene or alkenylene chain containing up to 8 carbon atoms each, which are optionally substituted with up to two hydroxyl groups;

$T_{XVII}$  and  $X_{XVII}$  are identical or different and denote a straight-chain or branched alkylene chain containing up to 8 carbon atoms; or

- 20  $T_{XVII}$  and  $X_{XVII}$  denotes a bond;

$V_{XVII}$  denotes an oxygen or sulfur atom or  $-NR_{XVII-19}$ ;

$R_{XVII-19}$  denotes a hydrogen or a straight-chain or branched alkyl containing up to 6 carbon atoms or a phenyl;

- 25  $E_{XVII}$  denotes a cycloalkyl containing 3 to 8 carbon atoms, or a straight-chain or branched alkyl containing up to 8 carbon atoms, which is optionally substituted with a cycloalkyl containing 3 to 8 carbon atoms or a hydroxyl, or a phenyl, which is optionally substituted with a halogen or trifluoromethyl;

- 30  $R_{XVII-1}$  and  $R_{XVII-2}$  are identical or different and denote a cycloalkyl containing 3 to 8 carbon atoms, hydrogen, nitro, halogen, trifluoromethyl, trifluoromethoxy, carboxy, hydroxy,

cyano, a straight-chain or branched acyl, alkoxycarbonyl or alkoxy with up to 6 carbon atoms, or  $\text{NR}_{\text{XVII-20}}\text{R}_{\text{XVII-21}}$ ;

$\text{R}_{\text{XVII-20}}$  and  $\text{R}_{\text{XVII-21}}$  are identical or different and denote hydrogen, phenyl, or a straight-chain or branched alkyl with up to 6 carbon atoms; and or

$\text{R}_{\text{XVII-1}}$  and/or  $\text{R}_{\text{XVII-2}}$  are straight-chain or branched alkyl with up to 6 carbon atoms, optionally substituted with halogen, trifluoromethoxy, hydroxy, or a straight-chain or branched alkoxy with up to 4 carbon atoms, aryl containing 6-10 carbon atoms optionally substituted with up to five of the same or different substituents selected from halogen, cyano, hydroxy, trifluoromethyl, trifluoromethoxy, nitro, straight-chain or branched alkyl, acyl, hydroxyalkyl, alkoxy with up to 7 carbon atoms and  $\text{NR}_{\text{XVII-22}}\text{R}_{\text{XVII-23}}$ ;

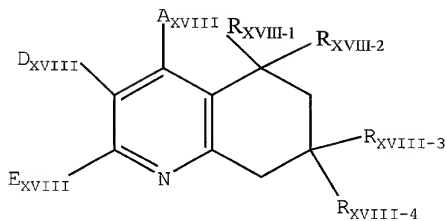
$\text{R}_{\text{XVII-22}}$  and  $\text{R}_{\text{XVII-23}}$  are identical or different and denote hydrogen, phenyl or a straight-chain or branched alkyl up to 6 carbon atoms; and/or

$\text{R}_{\text{XVII-1}}$  and  $\text{R}_{\text{XVII-2}}$  taken together form a straight-chain or branched alkene or alkane with up to 6 carbon atoms optionally substituted with halogen, trifluoromethyl, hydroxy or straight-chain or branched alkoxy with up to 5 carbon atoms;

$\text{R}_{\text{XVII-3}}$  denotes hydrogen, a straight-chain or branched acyl with up to 20 carbon atoms, a benzoyl optionally substituted with halogen, trifluoromethyl, nitro or trifluoromethoxy, a straight-chained or branched fluoroacyl with up to 8 carbon atoms and 7 fluoro atoms, a cycloalkyl with 3 to 7 carbon atoms, a straight chained or branched alkyl with up to 8 carbon atoms optionally substituted with hydroxyl, a straight-chained or branched alkoxy with up to 6 carbon atoms optionally substituted with phenyl which may in turn be substituted with halogen, nitro, trifluoromethyl, trifluoromethoxy, or phenyl or a tetrazol substituted phenyl, and/or an alkyl that is optionally substituted with a group according to the formula  $-\text{OR}_{\text{XVII-24}}$ ;

$\text{R}_{\text{XVII-24}}$  is a straight-chained or branched acyl with up to 4 carbon atoms or benzyl; and

Formula XVIII is



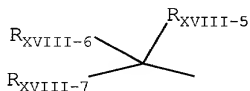
Formula XVIII

5

and pharmaceutically acceptable forms thereof, wherein:

$A_{XVIII}$  denotes a phenyl optionally substituted with up to two identical or different substituents in the form of halogen, trifluoromethyl or a straight-chain or branched alkyl or alkoxy containing up to three carbon atoms;

$D_{XVIII}$  denotes the formula



or  $R_{XVIII-8}-CH_2-O-CH_2-$

$R_{XVIII-5}$  and  $R_{XVIII-6}$  are taken together to form  $=O$ ; or

$R_{XVIII-5}$  denotes hydrogen and  $R_{XVIII-6}$  denotes halogen or hydrogen; or

$R_{XVIII-5}$  and  $R_{XVIII-6}$  denote hydrogen;

$R_{XVIII-7}$  and  $R_{XVIII-8}$  are identical or different and denote phenyl, naphthyl, benzothiazolyl, quinolinyl, pyrimidyl or pyridyl with up to four identical or different substituents in the form of halogen, trifluoromethyl, nitro, cyano, trifluoromethoxy,  $-SO_2-CH_3$  or  $NR_{XVIII-9}R_{XVIII-10}$ ;

$R_{XVIII-9}$  and  $R_{XVIII-10}$  are identical or different and denote hydrogen or a straight-chained or branched alkyl of up to three carbon atoms;

$E_{XVIII}$  denotes a cycloalkyl of from three to six carbon atoms or a straight-chained or branched alkyl of up to eight carbon atoms;

$R_{XVIII-1}$  denotes hydroxy;

5  $R_{XVIII-2}$  denotes hydrogen or methyl;

$R_{XVIII-3}$  and  $R_{XVIII-4}$  are identical or different and denote straight-chained or branched alkyl of up to three carbon atoms; or

10  $R_{XVIII-3}$  and  $R_{XVIII-4}$  taken together form an alkenylene made up of between two and four carbon atoms.

27. A pharmaceutical composition comprising a solid amorphous dispersion of a cholesteryl ester transfer protein inhibitor and a concentration-enhancing polymer, wherein said  
15 concentration-enhancing polymer is present in said solid amorphous dispersion in a sufficient amount so that said composition provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use environment relative to a control composition consisting  
20 essentially of an equivalent amount of said cholesteryl ester transfer protein inhibitor but with no concentration-enhancing polymer, and wherein said cholesteryl ester transfer protein inhibitor is selected from the group consisting of (4'S)-5'-(4-fluorophenyl)-6'-[(S)-fluoro[4-(trifluoromethyl)phenyl]methyl]-3',4'-dihydro-7'-(1-methylethyl)-spiro[cyclobutane-1,2'(1'H)-naphthalen]-4'-ol and  
25 (2R)-3-[[3-(4-chloro-3-ethylphenoxy)phenyl][3-(1,1,2,2-tetrafluoroethoxy)phenyl]methyl]amino]-1,1,1-trifluoro-2-propanol and pharmaceutically acceptable forms thereof.

30

28. A pharmaceutical composition comprising a solid amorphous dispersion of a cholesteryl ester transfer protein inhibitor and a concentration-enhancing polymer, wherein said  
35 concentration-enhancing polymer is present in said solid amorphous dispersion in a sufficient amount so that said composition provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use

environment relative to a control composition consisting essentially of an equivalent amount of said cholesteryl ester transfer protein inhibitor alone, and wherein said concentration-enhancing polymer comprises carboxy methyl ethyl cellulose.

29. A pharmaceutical composition comprising a solid amorphous dispersion of a cholesteryl ester transfer protein inhibitor and a concentration-enhancing polymer, wherein said concentration-enhancing polymer is present in said solid amorphous dispersion in a sufficient amount so that said composition provides concentration enhancement of said cholesteryl ester transfer protein inhibitor in a use environment relative to a control composition consisting essentially of an equivalent amount of said cholesteryl ester transfer protein inhibitor but with no concentration-enhancing polymer, and wherein said concentration-enhancing polymer comprises a polyoxyethylene-polyoxypropylene copolymer.

30. The composition of any one of claims 26-29 wherein said cholesteryl ester transfer protein inhibitor is substantially amorphous and said dispersion is substantially homogeneous.

31. The composition of any one of claims 26-29 wherein said dispersion has a single glass transition temperature.

32. The composition of any one of claims 26-29 wherein said composition provides a maximum concentration of said cholesteryl ester transfer protein inhibitor in said use environment that is at least 10-fold that of an equilibrium concentration of said cholesteryl ester transfer protein inhibitor provided by said control composition.

33. The composition of any one of claims 26-29 wherein said composition provides in said use environment an area under the concentration versus time curve for any period of at least 90 minutes between the time of introduction into said use environment and about 270 minutes following introduction to the use environment that is at least about 5-fold that of said control composition.

34. The composition of any one of claims 26-29 wherein wherein said composition provides a relative bioavailability that is at least 4-fold relative to said control composition.

35. The composition of any one of claims 26-29 wherein said cholesteryl ester transfer protein inhibitor has a solubility in aqueous solution, in the absence of said concentration-enhancing polymer, of less than than 2  $\mu\text{g/ml}$ .

36. The composition of any one of claims 26-29 wherein said cholesteryl ester transfer protein inhibitor has a dose-to-aqueous-solubility ratio of at least 1000 ml.

37. The composition of any one of claims 26-29 wherein said cholesteryl ester transfer protein inhibitor has a Clog P of greater than 4.

38. The composition of any one of claims 26-29 wherein said solid amorphous dispersion is mixed with additional concentration-enhancing polymer.

39. The composition of any one of claims 26-29 wherein said concentration-enhancing polymer comprises a blend of polymers.

40. The composition of any one of claims 26-27 wherein said concentration-enhancing polymer has at least one hydrophobic portion and at least one hydrophilic portion.

41. The composition of any one of claims 26-27 wherein said concentration-enhancing polymer is selected from the group consisting of ionizable cellulosic polymers, nonionizable cellulosic polymers, and vinyl copolymers and  
5 copolymers having substituents selected from the group consisting of hydroxyl, alkylacyloxy, and cyclicamido.

42. The composition of any one of claims 26-27 wherein said concentration-enhancing polymer is selected from  
10 the group consisting of hydroxypropyl methyl cellulose acetate, hydroxypropyl methyl cellulose, hydroxypropyl cellulose, methyl cellulose, hydroxyethyl methyl cellulose, hydroxyethyl cellulose acetate, hydroxyethyl ethyl cellulose, hydroxypropyl methyl cellulose acetate succinate, cellulose acetate  
15 phthalate, hydroxypropyl methyl cellulose phthalate, methyl cellulose acetate phthalate, cellulose acetate trimellitate, hydroxypropyl cellulose acetate phthalate, cellulose acetate terephthalate, cellulose acetate isophthalate, and carboxy methyl ethyl cellulose.